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Marketing
and
Regulatory
Programs

Animal and
Plant Health
Inspection
Service

National Animal Identification System (NAIS)

*“Integration of Private and State
Animal Tracking Databases
with the NAIS”*

Interim/Development Phase

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INTRODUCTION

The National Animal Identification System (NAIS) is being advanced through the following guiding principles:

- The system must be able to allow tracking of animals from point of origin to processing within 48 hours without unnecessary burden to producers and other stakeholders.
- The system's architecture must be developed without unduly increasing the size and role of government.
- The system must be flexible enough to utilize existing technologies and incorporate new identification technologies as they are developed.
- Animal movement data should be maintained in private systems that can be readily accessed when necessary by State and Federal animal health authorities.

Establishing a government-industry partnership will provide many benefits to all stakeholders, and the U.S. Department of Agriculture (USDA) is committed to, and will support, this activity to ensure its timely and effective implementation. This report provides USDA's initial plans for moving forward with the implementation of a process to facilitate the holding of animal tracking and movement records by the industry and States.

VETERINARY SERVICES (VS) ANIMAL TRACE PROCESSING SYSTEM (ATPS)

USDA will develop and manage the Animal Trace Processing System (ATPS) that provides the technology solution to interact with multiple Animal Tracking Databases (ATDs). The ATPS provides the information technology platform for security, electronic data transfer, and auditing processes. Additionally, the ATPS integrates other relevant data from the animal health databases managed by APHIS Veterinary Services.

A Web Service architecture provides the communication methods between the private databases and the ATPS. A business intelligence solution will provide the means for analyzing data using predetermined and ad-hoc query capability. A monitoring/auditing application will look at daily communications, for example, to determine if a system or systems are not responding and notify support personnel.

INFORMATION TECHNOLOGY (IT) CONSIDERATIONS

USDA's objective is to support the privatization of the animal tracking information component for NAIS in the most practical, timely, and least burdensome manner possible. When the issue of a single portal was proposed, USDA received numerous questions and comments on the potential for there to be several different animal tracking databases. Based on that feedback, USDA is developing a system to collect and process the data from the multiple animal tracking databases during a trace process. When a trace is required, the USDA system will request the submission of movement data from the individual ATDs. The ATDs will submit the movement information through the use of web services to the USDA system.

No animal movement records from producers, markets, and other stakeholders will be submitted to the USDA's ATPS until a trace process is initiated. In the event that animals need to be identified in order to confine and/or eradicate a disease, the ATPS will submit a request to participating databases for records of a specific animal or premises.

ACCESS CRITERIA TO ATDs

Access to ATDs for State and Federal animal health officials is enabled through the ATPS to support animal health programs according to the following criteria:

- A confirmed positive test for a foreign animal disease.
- An animal disease emergency as determined by the Secretary of Agriculture and/or State Departments of Agriculture.
- The need to conduct a traceback/traceforward to determine the origin of infection for a program disease (brucellosis, tuberculosis, etc.).

IMPLEMENTATION PLAN

APHIS VS has initiated the design of the ATPS. The design, development, and testing of the ATPS will continue throughout 2006, with deployment anticipated in early 2007. The current interim activities between USDA and the private sector will help in the development of the ATPS.

INTERIM/DEVELOPMENT PHASE

To initiate the integration of private and State animal movement/tracking systems with the NAIS, APHIS has developed an interim phase that will allow interested organizations to participate in early 2006. The private sector will be a part of this development phase. APHIS will enter into a Cooperative Agreement (CA) with organizations that have databases that meet the minimum requirements of the animal tracking databases in the interim phase and that wish to participate in the integration of the private and State animal tracking databases into the NAIS.

The data standards and technical requirements and specifications that systems must meet to participate in the CA are defined in this report. Participation in the CA does not imply that the system will participate in the NAIS as a fully compliant system after the ATPS becomes operational and the requirements for compliance are established.

Organizations must complete the “Request for Evaluation of Interim Private/State Animal Tracking Database” to initiate the review of their systems. APHIS will initiate the agreement if the system under review meets the interim requirements.

IMPLEMENTATION PHASE

APHIS will continue to develop the complete requirements for the integration of private and State animal tracking systems with the NAIS. Systems that meet these specifications will be defined as “NAIS Compliant Animal Tracking Databases” upon the signing of the agreement with the organization responsible for the information system.

It is anticipated that the requirements for compliance will be completed by late 2006, and the actual integration of such system with the ATPS is targeted for early 2007.

APHIS will establish a separate agreement with each participating organization that maintains a database with animal tracking information and that elects to provide access to the information according to the final NAIS requirements. In addition to outlining data elements and access and operating procedures, this agreement will also stipulate how movement data will be archived and transferred to ensure uninterrupted access by APHIS in the event the organization and/or technology company ceases business or elects to discontinue the operation of the ATD. In the event that interim participants continue to be interested and elect to make necessary changes, we expect the relationships between APHIS and the ATDs to continue beyond the development phase.

MINIMUM TECHNICAL REQUIREMENTS FOR COOPERATIVE AGREEMENT – INTERIM DEVELOPMENT PHASE

The purpose of the cooperative agreement is “to enable private organizations with systems that meet minimum requirements to participate in the development of the infrastructure for the timely advancement of the National Animal Identification System (NAIS).”

As such, any organization can request to enter into the cooperative agreement with APHIS and take part in the collaborative development of the integration of an ATD with the NAIS. The animal tracking system of the organization will need to meet minimal technical prerequisites and will be evaluated by an independent 3rd party contracted by APHIS to perform the evaluation. The evaluating organization will define the technical, security, and operation criteria based upon best-practice and acceptable industry standards. The preliminary (first phase) evaluation will require a sign-off on the preliminary criteria only. Any subsequent evaluations deemed necessary for the continued involvement of an organization with the project will be defined by the evaluating organization and in collaboration with organizations participating in the cooperative agreement.

The following list of criteria is a categorical approach. The final requirements by which an organization will be deemed able to participate will be defined in further detail by the evaluating organization and will be submitted to those organizations requesting evaluation prior to their evaluation(s).

Minimum requirements shall include, but are not limited to, the documentation and/or demonstration of:

- IT System Security
 - Physical
 - System Access Policy
 - Facility Security
 - Data
 - Disaster Recovery Plan (DRP)
 - User Access Policy
 - System/User Security Audit
 - Privacy Assurance
- IT Technology Operational Standards
 - Service Level Agreement (SLA)
 - System availability
 - Error Logging and Resolution
- Industry Standard Technology Infrastructure
- Database Administration
 - Data Assurance and Data Integrity Process
 - Maintenance of the required field and formats as defined in the NAIS Draft Program Standards (see Table 1, page 6)
- Daily Confirmation of Active Status to APHIS
 - Ability to interface with and transmit data via established Web Services
- Maintenance of Appropriate Technical Staffing

PRELIMINARY REQUIREMENTS FOR ANIMAL TRACKING DATABASES

This section provides preliminary requirements for the ATDs that will serve as a discussion document in the interim/development phase as APHIS works with participants in the cooperative agreement to provide input into the final technical solutions and requirements.

CONTACT INFORMATION

The ATD will provide APHIS with:

- Organization name
- Business Contact Information
- Company name (hosting the ATD)
- Hosting information
 - Operating hours (system and support hours)
 - Scope of the ATD (state and species)
- Support contact
 - Support start time
 - Support end time
- ATD owner
- Project management owner

The ATD will include its Client ID in all transactions with the ATPS.

OPERATIONAL SYSTEM REQUIREMENTS

- 24x7 with 98% planned uptime
- Message Services
- Must be able to receive system generated emails
- Daily submission
- Process Auditing (monthly and/or quarterly)
- Certification and Accreditation (C & A) Type Process (security assessment of ATD)

Note: Criteria may be increased in conjunction with 3rd party contractor and discussions with ATDs.

SECURITY

ATPS will authenticate message senders and will log activity in an effort to ensure a high degree of data integrity and system performance, and to provide the means for troubleshooting data or communication problems.

DATA ELEMENTS

The Animal Tracking Database must have tables to store, as a minimum, the following information in the suggested formats.

Field Description	Data Type	Size	Reqd.	Example
Event Type Code	Numeric	2	Y	1 (<i>see Draft Program Standards</i>)
Sighting/Reporting Premises Identification	Character	7	Y	
Source/Destination Premises Identification	Character	7	N	
Event Date & Time	Date	12	Y	YYYYMMDDHHMM Time is optional (if not time, zero fill)
Animal Identification number	Character	15	Y *	AIN may have leading "840"
Species	Character	3	N	
Identification Electronically Read	Boolean	1	Y	0 (False default) / 1 (True)
Animal Date of Birth	Date	8	N	YYYYMMDD 20020101
Age of Animal	Character	3	N	(M)onth, (D)ay, (Y)ear e.g. M11 (Zero fill if less than 10)
Gender	Character	1	N	(M)ale, (F)emale, (C)astrated/neutered male, (S)payed/neutered female
Breed of Animal	Character	2	N	See document Breed codes US and Can1.pdf
Remarks	Character	50	N	Description/other comments (may include brand information)
Status	Character	1	N	(C)orrection
Alternate Animal ID	Character	17	N *	Alternate official identification number if 840 AIN not available; Group/lot identification number if animal has AIN and was moved out of a lot; old AIN if tag replaced
Alternate Animal ID Type	Character	1	N	(A) AIN with leading USA, (U)SDA eartag, (R) AIN with lead manufacture code, (B)reed registry number, (G) GIN, (T)attoo, required if alternate identification (field 15) is provided, R(E)placement AIN number if event code 6 used
* At least one official ID required. Provide for storing multiple alternate animal IDs.				
Table 1				